

Please amend the above-identified continuation application as follows:

In the claims:

Please delete claims 1 - 8. Add claims 9 - 18:

- 10046420-102601 A1
9. A molecular regulatory circuit delivered into a cell for activation of a gene of interest by a single transient stress, comprising
 - (a) a gene for a transcription factor, the transcription factor being first expressed to a level sufficient to activate the gene of interest in response to a transient stress and thereafter activating its own expression and
 - (b) the gene of interest that is activated by the transcription factor.
 10. A molecular regulatory circuit delivered into a cell for controlling the activity of a gene of interest by a single transient stress and a second stimulus, comprising
 - (a) a gene for a transcription factor, the transcription factor being first expressed to a level sufficient for activation of the gene of interest in response to a transient stress, acquiring activity in the presence of the second stimulus and thereafter activating its own expression and
 - (b) the gene of interest that is activated by the transcription factor in the presence of the second stimulus.
 11. A method for activation of a gene of interest in a cell by a single transient stress, comprising

Delivering into the cell a molecular regulatory circuit comprising one or more nucleic acids comprising (a) a gene for a transcription factor that is first expressed to a level sufficient to activate the gene of interest in response to a transient stress

and thereafter activates its own expression and (b) the gene of interest that is activated by the transcription factor, and

Subjecting the cell containing the molecular regulatory circuit to a transient stress sufficient to cause expression of the transcription factor to a level sufficient to activate the gene of interest,

Thereby achieving sustained expression of the gene of interest.

12. A method for controlling the activity of a gene of interest in a cell by a single transient stress and a second stimulus, comprising

Delivering into the cell a molecular regulatory circuit comprising one or more nucleic acids comprising (a) a gene for a transcription factor that is first expressed to a level sufficient for activation of the gene of interest in response to a transient stress, acquires activity in the presence of the second stimulus and thereafter activates its own expression and (b) the gene of interest that is activated by the transcription factor in the presence of the second stimulus, and

Subjecting the cell containing the molecular regulatory circuit to the second stimulus and to a transient stress sufficient to cause expression of the transcription factor to a level sufficient to activate the gene of interest,

Thereby achieving sustained expression of the gene of interest.

13. The method of claim 12 further comprising the step of subsequently withdrawing the second stimulus, thereby achieving reduction of the activity or inactivation of the gene of interest.

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